3Com® SuperStack® 3 Switch 3200 Family

DATA SHEET

- Wirespeed, Layer 2/3 switches with 10/100 desktop connections and Gigabit downlinks
- Dynamic Layer 3 routing simplifies implementation
- IEEE 802.1X network login and RADIUS authentication

Key Benefits

Performance

Wirespeed, non-blocking Layer 2/3 switching for 10/100 desktop connections with built-in Gigabit downlinks. Packet prioritization gives optimal performance to real-time applications such as voice and video. Link aggregation of the downlinks enables high-performance connectivity to the core of the network, with resiliency to improve availability and uptime. Layer 3 switching at the edge enables fast switching of traffic between local subnets while offloading routers in the core of the network.

Flexibility

Available in managed 50- or 26-port configurations, with 48 or 24 auto-sensing 10/100 ports and two dual-personality ports for 10/100/1000 or SFP connectivity.

Ease of Use

Supports dynamic routing through RIP, with automatic updating of the Layer 3 network without any manual intervention. Much easier than implementing static routes.

Automatically auto-negotiates speed and duplex mode of cables connected to it preventing misconfiguration of the network. Switches detect and adjust to cross-over or straight-through cable connections– a feature called auto MDI/MDIX– eliminating the need for specific crossover cables.

Scalability

Supports up to 2,000 external routes, allowing the switch to scale as the network grows–ideal for deployments at the edge of a network. Supports up to 255 VLANs and standards-based IEEE 802.3ad trunking (LACP).

Rate limiting enables the bandwidth on each port to be restricted, preserving network bandwidth and allowing maximum control of network resources.

Security

Supports IEEE 802.1X network login to secure user entry into the network, with access control directed from a central standards-based RADIUS server for ease of management. Intrusion prevention features protect the network and will discard all packets from unauthenticated users.

Port-based Access Control Lists further enhance security. Communication of attached stations can be restricted to certain destinations, in essence segmenting the network into more secure areas.

Management of the switch can be implemented using Secure Shell (SSH) and Secure Sockets Layer (SSL/HTTPS) encryption (56 or 168 bit) preventing unauthorized remote access to the switch over IP networks or from a web browser.

Network Control

Network management through embedded web interface, command line interface, or an SNMP management station. Network management is further simplified with the use of 3Com Network Supervisor for configuration and troubleshooting of multiple devices on the network.

Limited Lifetime Hardware Warranty

Limited Lifetime Hardware Replacement. See www.3com.com/warranty for details.

Service

3Com products are backed by 3Com Global Services and authorized partners with demonstrated expertise in network assessment, implementation, and maintenance. Ask about 3Com's Network Health Check, installation services, and maintenance service packages available in your area.

3Com® SuperStack® 3 Switch 3200 family switches are wirespeed, Layer 3 switches with 10/100 desktop connections and Gigabit downlinks for high performance connectivity to the rest of the network. These switches support dynamic Layer 3 routing, simplifying the implementation of Layer 3 networks by automatically configuring and updating the switch with all topology changes. This ability to dynamically reconfigure the routing provides a significant benefit over the use of static routes, avoiding the drawback of many Layer 3 switches which require manual intervention when changing the topology of the network.

The SuperStack 3 Switch 3200 is optimized for edge desktop connections. Layer 3 switching for the network's edge, with the Switch 3200's hardware-based wirespeed routing, improves performance by routing locally without data having to travel back to the network core. This is especially useful in organizations having or anticipating multiple subnets in their workgroups, where even local traffic may otherwise need to be routed via a core switch.

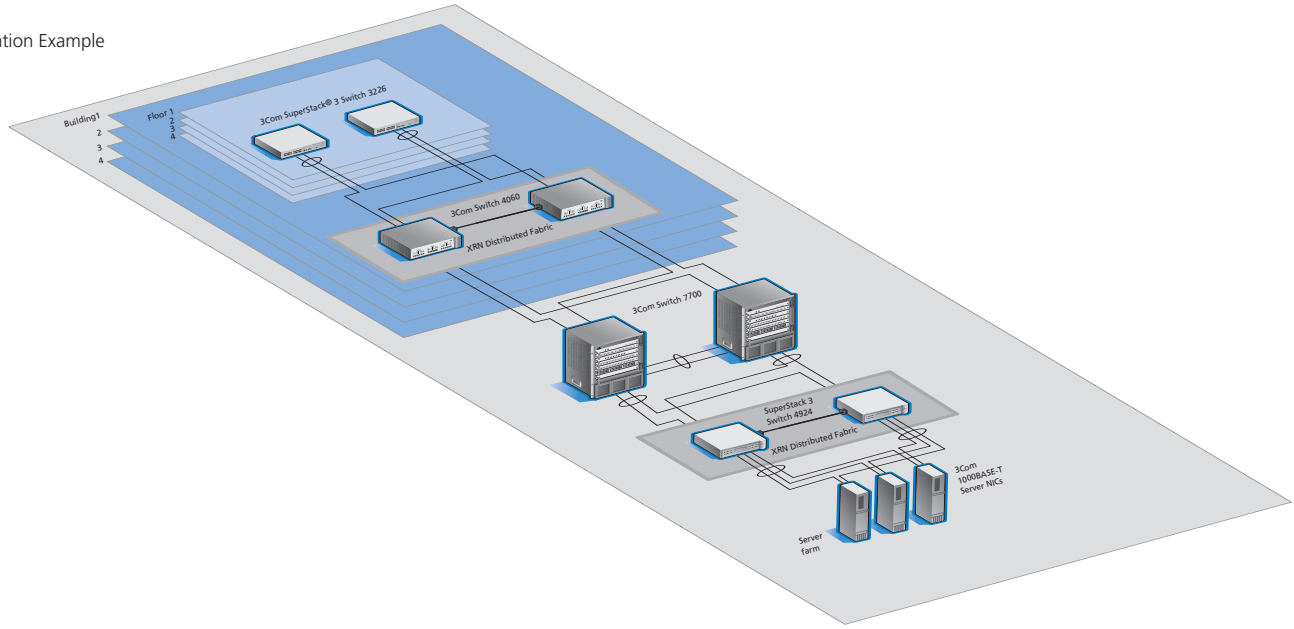
Also, for edge-optimized deployment, the SuperStack 3 Switch 3200 supports the learning of up to 2,000 IP routes through an uplink to a core router using Router Internet Protocol (RIP). This high number of routes enables the switch to operate in larger networks than can other switches which have significantly smaller numbers of routes.

The SuperStack 3 Switch 3200 also supports core-level switching in smaller networks, with local routing for 32 IP interfaces and up to 14 routes distributed from other local Layer 3 devices.

The SuperStack 3 Switch 3200 family confirms 3Com's commitment to strong network security. Its implementation of IEEE 802.1X network login security helps ensure all users are authorized before being granted access to any network resource. User authentication is carried out using any standards-based RADIUS server, avoiding any proprietary authentication mechanisms.

Containment of users to specific areas of the network can be easily controlled through Access Control Lists (ACLs), restricting the IP addresses with which a port can communicate.

Configuration Example



Features

PERFORMANCE	
	Switching capacity: SuperStack 3 Switch 3226, 8.8 Gbps; Switch 3250, 13.6 Gbps Forwarding rate: Switch 3226, 6.6 Mpps; Switch 3250, 10.1 Mpps Store-and-forward switching; latency <12 µs
LAYER 2 SWITCHING	
MAC Address	8K MAC addresses
VLAN	255 VLANs (IEEE 802.1Q)
Link Aggregation	IEEE 802.1ad (LACP), Gigabit ports only
Auto-negotiation	Auto-negotiation of port speed, duplex, and connection (MDI/MDIX)
Traffic control	IEEE 802.3x full-duplex flow control Back pressure flow control for half-duplex Supports Broadcast Storm Suppression (3,000 pps threshold)
STP/RSTP	IEEE 802.1w Rapid Spanning Tree Protocol (RSTP) Backward-compatible with STP Fast-start mode Spanning tree enable/disable per port
LAYER 3 SWITCHING	
Routes	Hardware based routing 2,000 IP routes 1,990 dynamic and 100 static ARP (Address Resolution Protocol) entries
IP Routing	32 IP interfaces Multi-netting (multiple IP interfaces per VLAN) RIP (Routing Information Protocol), v1 and v2 • Split Horizon • Split Horizon with poisoned reverse • Triggered updates • MD5 authentication of the RIP packets • Password authenticated RIP packets • Host route advertisements
Multicast	Filtering for 64 multicast groups IGMP (Internet Group Management Protocol) snooping on Layer 2 interfaces IGMP v1 and v2 IGMP Querier
Network protocol	DHCP (Dynamic Host Configuration Protocol) Helper/Relay UDP Helper ARP, ARP Proxy
CONVERGENCE	
Priority Queues	Four hardware queues per port Weighted Round Robin queuing
Traffic Prioritization	Priority based on: • DSCP (DiffServ Code Point) • IEEE 802.1p Class of Service (CoS) VLAN priority • TCP/UDP destination port number • Default port priority • Auto classification of 3Com NBX® telephony traffic
Bandwidth Management	Port-based bandwidth management: • 1 Mbps increments (10/100 ports) • 8 Mbps increments (Gigabit ports)

Features *continued*

SECURITY	
Network Login	IEEE 802.1X user authentication • RADIUS authentication • Secure Mode (locks MAC address)
Access Control Lists	Port-based ACLs • Filtered on destination IP address / mask • One ACL per port • 32 unique ACLs per switch • 32 rules per ACL (10/100 ports)
Switch Protocol Security	MD5 cipher-text and clear-text authentication for RIP v2 packets
Switch Management	Local or RADIUS management of switch passwords Trusted IP Management Addresses Telnet • SSH v1 (56bit DES) • SSH v2 (requires free software upgrade) SSL (HTTPS) • 40 Bit • 56 Bit DES • 128 Bit RC4 (requires free software upgrade)
RESILIENCY	
	Support for 3Com Advanced Redundant Power Supply; provides backup power to the switch Dual software images Backup and restore of switch settings
MANAGEMENT	
Remote Management	SNMP v1
Software	Dual software images Backup and restore TFTP configuration: upload/download TFTP agent: upload
Configuration	Command line Serial (9-pin, D-type connector) Telnet Web-based SNMP
Mirror port / RAP (Roving Analysis Port)	One-to-one
RMON (Remote Monitoring)	Four groups: statistics, history, alarm, and events
IP address allocation	DHCP Manual User-selectable management VLAN
Switch access levels	2 access levels 16 user accounts
Remote management	3Com Network Supervisor (copy provided with product) • Topology discovery • Change management reporting • Capacity planning • Event logging • Fault identification and troubleshooting • Utilization monitoring

Specifications

All information in this section is relevant to the 3Com SuperStack 3 Switch 3226 and Switch 3250, unless stated otherwise.

Port Capacities

SuperStack 3 Switch 3226:
24 10/100 ports
2 dual-personality 10/100/1000 or SFP Gigabit ports

SuperStack 3 Switch 3250:
48 10/100 ports
2 dual-personality 10/100/1000 or SFP Gigabit ports

Dimensions
Height: 45 mm (1.7 in or 1U)
Width: 440 mm (17.3 in)
Depth:
Switch 3226: 252 mm (9.9 in)
Switch 3250: 333 mm (13.1 in)
Weight:
Switch 3226: 4.3 kg (9.5 lbs)
Switch 3250: 5.3 kg (11.7 lbs)

Performance

SuperStack 3 Switch 3226:
Bandwidth: 8.8 Gbps
Throughput: 6.6 Mpps

SuperStack 3 Switch 3250:
Bandwidth: 13.6 Gbps
Throughput: 10.1 Mpps

Power Supply
Input voltage: 100-240 VAC autoranging
Operating frequency: 47-63 Hz
Maximum current: 2A
Maximum power:
Switch 3226: 55 W
Switch 3250: 84 W
Heat dissipation:
Switch 3226: 184 BTU
Switch 3250: 287 BTU

CPU
MPC8245 (333Mhz)
16MB Flash memory
32MB Processor memory

Packet Buffer Memory
Switch 3226: 32MB
Switch 3250: 64MB

Environmental Requirements
Operating temperature:
0° to 40°C (32° to 104°F)
Storage temperature:
-40° to 70°C (-40° to 158°F)
Humidity:
10% to 90% non-condensing

MTBF

SuperStack 3 Switch 3226:
51 years (447,000 hours)

SuperStack 3 Switch 3250:
38 years (333,000 hours)

Industry Standards Supported

Ethernet Protocols
IEEE 802.1p (CoS)
IEEE 802.1Q (VLANs)
IEEE 802.1w (RSTP)
IEEE 802.1X (Security)
IEEE 802.3ab (Copper Gigabit)
IEEE 802.3ad (Link Aggregation)
IEEE 802.3i (10BASE-T)
IEEE 802.3u (Fast Ethernet)
IEEE 802.3x (Flow Control)
IEEE 802.3z (Fiber Gigabit)

Administration Protocols
RFC 1812 (IPv4)
RFC 1518, 1519 (CIDR)
RFC 826 (ARP)
RFC 783 (TFTP)
RFC 768 (UDP)
RFC 791 (IP)
RFC 793 (TCP)
RFC 2474 (DiffServ)
RFC 2131 (DHCP)
RFC 1058 (RIP v1)
RFC1723 (RIP v2)
RFC 2138 (Radius Authentication)
RFC 2139 (Radius Accounting)

Management, including MIBs Supported
RFC 1157 (SNMP v1/v2c)
RFC 1213 (MIB II)
RFC 1398 Ethernet MIB
RFC 1493 (Bridge MIB)
RFC 1573 (Private IF MIB)
RFC 1724 (RIP V2 MIB Extension)
RFC 1757 RMON MIB
RFC 2011 IP-MIB
RFC 2012 TCP-MIB
RFC 2013 UDP-MIB
RFC 2037 Entity MIB
RFC 2618 (RADIUS Authentication Client MIB)
RFC 2665 Ethernet-MIB
RFC 2674P P-BRIDGE-MIB
RFC 2674Q Q-BRIDGE-MIB
RFC 2737 Entity MIB
RFC 2819 RMON MIB
RFC 2863 IF-MIB
IEEE8021-PAE-MIB (IEEE) (Network Login)
Router MIB

Emissions / Agency Approvals
CISPR 22: 1995; Class A
FCC Part 15 subpart B, Class A
EN 55022: 1998; Class A
ICES -003 Class A
AS/NZS 3548 Class A
EN 61000-3-2: 2000
EN 61000-3-3: 1995 +A1

Immunity
EN 55024: 1998

Safety Agency Certifications
UL 60950-1
IEC 60950: 2001; all national deviations
EN 60950: 2001; all national deviations
CSA 22.2 # 60950-00

Management
Web interface
Command line interface
SNMP compatibility
Management through 3Com management applications
- 3Com Network Supervisor
- 3Com Network Director
- 3Com Network Administrator
- 3Com Enterprise Management Suite

Warranty
Limited Lifetime Hardware Warranty. Limited Software Warranty for ninety (90) days. See www.3com.com/warranty for details.

Other Benefits
Other Service Benefits: Advance hardware replacement with same day shipment for North America and Western Europe. Next day shipment for rest of world. Calls must be received by published cut-off times.
90 days of telephone technical support. Limited software updates.
See www.3com.com/warranty for more detail.
Register products at http://eSupport.3com.com/.

Service
Americas:
http://www.3com.com/products/en_US/global_services/
International:
http://emea.3com.com/globalservices

Ordering Information

PRODUCT DESCRIPTION	3COM SKU
3Com SuperStack 3 Switch 3226 24-port 10/100 Layer 3 switch with two dual-personality 10/100/1000 or SFP ports	3CR17500-91
3Com SuperStack 3 Switch 3250 48-port 10/100 Layer 3 switch with two dual-personality 10/100/1000 or SFP ports	3CR17501-91
SFPs (LC connectors)	
3Com 1000BASE-SX SFP	3CSFP91
3Com 1000BASE-LX SFP	3CSFP92
3Com 1000BASE-LH70 (70km) SFP	3CSFP97
Redundant Power	
3Com SuperStack 3 Advanced Redundant Power System	3C16071B
3Com SuperStack 3 Advanced Redundant Power System, 325W Power Module Type 3	3C16075

3Com Exercise Choice™

CELEBRATING 25 years of NETWORKING

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